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MONTHLY NOTICES

OF THE

ROYAL ASTRONOMICAL SOCIETY.

Vol. LXIX. MARCH 12, 1909. No. 5

Sir David Gill, K.C.B., F.R.S., President, in the Chair.

Edmund Sewall Manson, Jun., Assistant Professor of Astronomy, Ohio State University, Columbus, Ohio, U.S.A.; and
Robert Charles Slater, M.A., Assistant Master, Charterhouse, Godalming,

were balloted for and duly elected Fellows of the Society.

The following candidates were proposed for election as Fellows of the Society, the names of the proposers from personal knowledge being appended:—

George Bruford, Tolland House, Shoot-up-Hill, Cricklewood, N.W. (proposed by S. A. Saunder);
Reinold John-Jauget, Captain, Mercantile Marine, 53 Chatsworth Street, Sunderland (proposed by T. W. Backhouse); and
James Hopwood Jeans, M.A., F.R.S., formerly Fellow of Trinity College, Cambridge, Professor of Applied Mathematics, Princeton University, New Jersey, U.S.A. (proposed by Arthur R. Hinks).

One hundred and one presents were announced as having been received since the last meeting, including, amongst others:—

Algiers Observatory, Carte photographique du Ciel, coordonnées rectilignes, tome vi., fasc. 2, presented by the Observatory; Ch. André, Les planètes et leur origine, presented by the author; Harvard Observatory Annals, eight vols. and parts, presented by the Observatory; Lick Observatory Publications, vol. viii. (Keeler's photographs of nebulæ), presented by the Observatory; Paris

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Observatory, Atlas Photographique de la Lune, fasc. 10, presented by the Observatory; R. Patxot Jubert, Observaciones de San Feliu de Guixols, presented by the author; B. O. Peirce, Theory of the Newtonian Potential Function, presented by Mr. Frank Robbins; A. Stanley Williams, Zenographical Fragments, part 2, presented by the author.

Astrographic Chart; 36 charts, presented by the Royal Observatory, Greenwich; 20 charts, presented by the San Fernando Observatory, 14 by the Tacubaya Observatory, and 22 by the French Minister of Public Instruction, from the Bordeaux and Toulouse Observatories.

On Correlation and the Characters of Variable Stars: in reply to Professor Karl Pearson. By H. C. Plummer, M.A.

1. The paper* in which Professor Pearson has discussed some of the statistical relationships to which different classes of variable stars may be subject has natural claims to our respectful attention. Much work in modern astronomy, whether expressly inspired by the evolutional point of view or not, is of the nature of classification. Professor Pearson has done so much to provide the necessary theoretical basis for studying the correlation of classified characters that we should be grateful to him for dealing with some of the problems connected with variable stars which are of this kind, and thereby drawing more general attention to a branch of astrophysics which is of the greatest interest and importance.

At the same time it seems to me that some of Professor Pearson's results stand in need of serious qualification, being open to a very simple line of criticism (see §§ 3, 4), which he has apparently overlooked. If this be conceded, these results must lose much of their value, and no very great confidence can be placed in certain ulterior speculations which have been based on them. This may be thought a harsh judgment. But if it can be shown that in this instance Professor Pearson, possibly misled by a certain want of familiarity with the subject of variable stars, has made a not altogether judicious use of his own machinery, it will surely be better to vindicate the general methods, even at the expense, if need be, of the particular results.

Perhaps an example will serve to explain, if it does not justify, the feeling that such a critical attitude is necessary. In the case of long-period variables, Professor Pearson finds a correlation between the light-range and maximum light of seventy-nine stars which is little short of unity (·9996). Now if this means anything at all, it should mean that the light-range is almost rigorously a linear function of the maximum light. But if this be so, a similar relation ought to hold between the maximum light and the minimum light. Now this is not so. Hence it is impossible to

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* *M.N.*, lxix. p. 128 (1908 Dec.).

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